



Waukegan Community Unit
School District #60
Lincoln Center for Educational Services
Division of Teaching, Learning, and Professional Practices

The Core Principals: Standards for Mathematical Practice Model Traditional Pathway: Model Geometry Overview

The goal of the Standards for Mathematical Practice is to complement the Common Core State Standards by working to engage students in the subject matter, ensuring that they grow in maturity and expertise from Pre-Kindergarten through High School.

Number and Quantity

- Quantities
 - Reason quantitatively and use units to solve problems

Geometry

- Congruence
 - Experiment with transformations in the plane
 - Understand congruence in terms of rigid motions
 - Prove geometric theorems
 - Make geometric constructions
- Similarity, Right Triangles, and Trigonometry
 - Understand similarity in terms of similarity transformations
 - Prove theorems involving similarity
 - Define trigonometric ratios and solve problems involving right triangles
 - Apply trigonometry to general triangles
- Circles
 - Understand and apply theorems about circles
 - Find arc lengths and area of sectors of circles
- Expressing Geometric Properties with Equations
 - Translate between the geometric description and the equation for a conic section
 - Use coordinates to prove simple geometric theorems algebraically
- Geometric Measurement and Dimension
 - Explain volume formulas and use them to solve problems
 - Visualize relationships between two-dimensional and three-dimensional objects
- Modeling with Geometry
 - Apply geometric concepts in modeling situations

Continued...

Statistics and Probability

- Conditional Probability and the Rules of Probability
 - Understand independence and conditional probability and use them to interpret data
 - Use the rules of probability to compute probabilities of compound events in a uniform probability model
- Using Probability to Make Decisions
 - Use probability to evaluate outcomes of decisions

Standards for Mathematical Practice
<ol style="list-style-type: none">1. Make sense of problems and persevere in solving them2. Reason abstractly and quantitatively3. Construct viable arguments and critique the reasoning of others4. Model with mathematics5. Use appropriate tools strategically6. Attend to precision7. Look for and make use of structure8. Look for an express regularity in repeated reasoning